

About Another Hour

By LCdr. Charles C. Moore II

A jet occasionally may try to tell you something during preflight. Like most JOs, I know that when the jet is talking, it may not say what I want to hear. My crew recently experienced our jet trying to talk to us while on a mission supporting Operation Enduring Freedom.

I had been in theater only for a few weeks, and the missions hadn't yet taken on a "Groundhog Day" feel. The majority of aircrews remained enthusiastic about the operations in this unfamiliar theater. This mission was my crew's second one, and we certainly felt proactive.

Normal package, element, and individual crew-briefing routine preceded the mission. Man-up, start, and taxi to the catapults went smoothly, and the Prowler acted ready for the day's assignment. Crisp, clear weather conditions prevailed as the yellowshirt taxied us to tension at the holdback. All motor and auxiliary indications looked good during the run-up and wipeout. We saluted and waited for the catapult to fire.

The holdback parted, and off we went. Moments later, while we raised the gear and initiated a clearing turn, the master-caution light flashed. I glanced at the annunciator panel and saw a steady HYD SYS light. The hydraulic gauges told the rest of the story: The right combined gauge was buried at zero pressure.

Hydraulic pressure in the Prowler comes from a classic Grumman split: tandem-actuated flight and combined system. Each motor drives two pumps, one for each system. I barely had told the crew of the master-caution light when



Photo by PH2 Shane McCoy

the light blinked out. The annunciator light and the pressure gauge showed the pump had climbed back to the advertised 3,000 psi. After a brief discussion with the crew, we pressed.

Our discussion had focused on the momentary dip to zero psi on one hydraulic pump—none of us ever had seen that. I tried to tax the jet's hydraulic system with hard turns on the level-off. The hydraulics never wavered, neither did our resolve. Finally, we decided the cat shot probably had induced the indications, alleviating any of our lingering concerns.

From an aircraft-systems perspective, the rest of the mission was uneventful. After six hours, we arrived in the overhead for a standard Case I recovery.

Following the arrestment and sideline for a pushback, the flight-deck chief emphatically signaled for a shutdown of the port engine. We shut it down and disembarked. We discovered the entire belly of the aircraft awash with hydraulic fluid, and the troubleshooters said the flight-hydraulic reservoir was empty.

While the cockpit indications never had wavered for the flight-hydraulic system, a small leak slowly had atrophied the system. The only fluid left was in the lines.

Our Prowler went to the hangar bay for the night to repair the leak. The jet was given life

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through a hydraulic jenny to verify the system integrity. While confirming the flight side of the hydraulic system, the maintainers discovered the combined-hydraulic reservoir had blown an end cap. The blown cap posed contamination and leak risks, which could have occurred at any time.

Ironically, only a few crews would have handled the circumstances differently. The vast majority of our crews said they would have continued the mission as we did.

The maintainers couldn't predict how long the combined system would have lasted. They



were adamant, however, that I was minutes from losing the flight hydraulics. The loss of both sides of the Prowler hydraulic system means a lost Prowler—not a pleasant outcome.

Concise and definitive systems knowledge is necessary to navigate a mysterious scenario such as this. Early in the flight, our crew analysis boiled down to two simple facts. We had checked with the PCL and found no specific emergency procedure for the single hydraulic pump's momentary fluctuation, and we attacked the system early with the loaded turns and constant monitoring. We QA'd one another to make sure we hadn't overlooked any vital information. Second, there was no way to predict, nor any reason to expect, the other hydraulic system would spring a leak. We would have found that out an hour later. 🦅

LCdr. Moore was the operations officer with VAQ-139 at the time of this event.